Diagnostic criteria were heterogeneous and included definitions based on International Classification for Headache Disorders (ICHD) guidelines, Silberstein-Lipton criteria, and various investigator-defined frequency-based classifications. Thus, definitions varied from relatively strict criteria (≥15 days/month of migraine) to more liberal criteria (history of migraine and ≥15 days/month of headache). Prevalence of CM was 0%-5.1%, with estimates typically in the range of 1.4%-2.2%. Seven studies used criteria of history of migraine and ≥15 days/month of headache (or equivalent), with prevalence of 0.9%-5.1%. Three studies used criteria of ≥15 days/month of migraine (or equivalent), with prevalence of 0%-0.7%. Two studies stated that the condition was transformed migraine or chronic migraine (without specific criteria), with prevalence of 1.6% and 4.1%. Prevalence varied by WHO region and gender. **CONCLUSIONS:** CM prevalence estimates are influenced by specific definitions employed. Using the strictest criteria, prevalence was well under 1%; with a less restrictive definition, prevalence was higher, 1%-5%. With these variations, it is difficult to compare results across regions and explore temporal trends. Future studies on CM would benefit from an ICHD consensus diagnosis that is clinically appropriate and operational in large-scale epidemiological studies.

PND3

PREVALENCE OF ALZHEIMER'S DISEASE AND RELATED DEMENTIA AND THE CO-EXISTING CONDITIONS IN MANAGED CARE ORGANIZATIONS

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OBJECTIVES: Prevalence data of Alzheimer's disease and related dementia (ADRD) in managed care organizations (MCO) is old and very few data on the prevalence of the co-existing conditions. This study aims at investigating the rates and the trend of the prevalence of ADRD and the co-existing conditions in MCO over an eleven- year period. **METHODS:** Data are drawn from the Ingenix Impact National Managed Care Database (Impact Database). The study time period is 1997–2007. Annual prevalence of ADRD and two common co-existing conditions (type II diabetes and congestive heart failure) are calculated among those aged ≥50 and those aged ≥65. Prevalence of the co-existing conditions among ADRD patients are compared to the prevalence among the general population in the same age group. Data extraction and prevalence calculations are performed in SAS 9.1. **RESULTS:** From 1997 to 2001, prevalence of ADRD increased dramatically among those aged 50 and aged 65. Prevalence of ADRD starts to level off during 2005–2007 in both age groups. For the two co-morbid conditions that are investigated, 1) prevalence of diabetes is 2.3 times higher in ADRD patients than in the general population, prevalence of congestive heart failure is 5 times higher; and 2) during 1997–2007, prevalence of both co-morbid conditions among ADRD patients are constantly increasing, whereas the prevalence in the general population are variant. **CONCLUSIONS:** In this study, prevalence estimates of ADRD are consistent with the literature. The finding that the prevalence of ADRD starts to level off since 2005 may indicate that for persons under the care of MCO, the underdiagnose of ADRD may drop to a certain level in recent years. The substantially higher prevalence of co-morbid conditions among ADRD patients and its constantly increasing trend may pose both challenge and opportunity to MCO managers in their strategies for containing costs.

PND4

RATE OF DISEASE PROGRESSION AMONG PATIENTS WITH PARKINSON'S DISEASE IN SINGAPORE

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OBJECTIVES: Worldwide, data on the long term prognosis of Parkinson's disease (PD) are limited, particularly in South-east Asia. This study was carried out to investigate the time taken to transit between Hoehn & Yahr (H&Y) stages among patients with PD in Singapore. **METHODS:** Patients were recruited from a tertiary neuroscience clinic in Singapore. Both patients' clinical and demographic information were obtained from hospital's database. Time-to-transition was computed using Kaplan-Meier analysis. Cox regression analysis was performed to examine the influence of gender, race, duration of PD and age-at-diagnosis on time-to-transition. **RESULTS:** A total of 695 patients (mean age: 65.3, male: 58%) consented to participate in the study. Using Kaplan-Meier analysis, the time-to-transition from H&Y stage 1 to 2, from 2 to 2.5, from 2.5 to 3 were 22.3, 52.9 and 30.3 months, respectively. Time-to-transition from stage 3 to 4, and from stage 4 to 5 were 27.4 and 30.0 months, respectively. In Cox regression analysis, younger-onset (age at diagnosis = 83.6 as reference group, p = 0.006; age at diagnosis = 56.1, $f'' = -1.713$, p = 0.011) and shorter PD duration (duration = 14.7 as reference group, p = 0.002; duration = 4.9, $f'' = -2.188$, p = 0.001; duration = 7.5, $f'' = -1.443$, p = 0.030) predicted longer time-to-transition from stage 2 to 2.5. Shorter PD duration (duration = 22.8, p = 0.021) similarly predicted longer duration from stage 4 to 5. **CONCLUSIONS:** To the best of our knowledge, this is the first study to report on disease progression using time-to-transition between various H&Y stages. Our findings were similar from current literature in that younger-onset patients took longer to reach advanced stages. However, unlike published literature, disease progression was not slower among female compared to male patients in our study. This could be a real difference or could be due to different ways of measuring disease progression. The data are thus interesting and worth further exploration. These information are also important to clinicians to help improve patient management.

PND5

CLINICAL CONSEQUENCES OF GENERIC SWITCHES OF ANTI-EPILEPTIC DRUGS—TRANSFER OF CANADIAN CLAIMS DATABASE RESULTS TO GERMANY

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OBJECTIVES: To assess the proportion of patients with epilepsy switching back to branded lamotrigine after generic substitution, to investigate the possible clinical consequences of generic substitution in Germany, and to compare the results with published research data. German national guidelines recommend not to switch stable epileptic patients to a generic version of the anti-epileptic drug (AED). **METHODS:** Retrospective IMS Disease Analyzer with longitudinal data (January 2005 to July 2008) was used. An open-cohort design was used to classify patients' observation into mutually-exclusive periods of branded versus generic use of lamotrigine. Periods of generic use were further stratified into single-generic, multiple-generic use, and switch-back-cohort. Published results from Québec's provincial health care-plan (RAMQ) from April 1998 to July 2006 were used as comparator. Patients with at least one diagnosis for epilepsy (ICD-10: G40.x) and at least one prescription of Lamotrigine (ATC-N03A0) were selected. **RESULTS:** A total of 1,171 patients (674 female (57.5%), mean age 39.0, SD 17.4) were observed in the German data. Compared to the RAMQ database, we found a similar distribution of patients' demographics, periods of brand use and generic switching. In the switch-group, 30.3 % of patients switched back to branded lamotrigine. There was a statistically significant difference between brand and generic periods for mean (paired t-test, $p < 0.0001$) and median (sign-test, $p < 0.0001$) daily dose. In contrast, the group switching from branded to generic and back to branded lamotrigine showed no significant difference in the mean ($p < 0.4482$) and median daily dose ($p < 0.7744$). **CONCLUSIONS:** Lamotrigine patients in Germany switching from brand to generic lamotrigine experienced similar clinical consequences of generic substitution, as reported previously, also for other AEDs. Given the same characteristics as here, results can be transferred to a different population. Therefore, we expect comparable clinical consequences and switch back patterns for topiramate generic substitution in Germany.

NEUROLOGICAL DISORDERS – Cost Studies

PND6

COMPARISON OF COSTS FOR INTERFERON BETA 1-A AND NATALIZUMAB IN PATIENTS WITH MULTIPLE SCLEROSIS

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OBJECTIVES: To compare cost of care for interferon beta (IFNβ)-1a subcutaneous (SC) and natalizumab in patients with multiple sclerosis (MS). **METHODS:** In this post hoc analysis, eligible patients (>18 and <65 years) had an MS diagnosis in a national managed care database, ≥1 new medical or prescription claim for IFNβ-1a SC or natalizumab during the July 1, 2006 to December 31, 2006 selection period, and were continuously eligible for 12 months before and after the initial disease-modifying drug (DMD) claim in the selection period. Managed care costs represented both total and component costs. A propensity score was calculated as the probability of being in either treatment group from preperiod variables (eg, age, sex, region). Analysis of covariance was used to evaluate total and component costs by treatment cohort. **RESULTS:** A total of 421 patients (IFNβ-1a SC = 222, natalizumab = 199) met study criteria. Most patients were women (IFNβ-1a SC, 77.9%; natalizumab, 74.4%), but were older in the natalizumab group (mean [SD] 45.5 [9.7] y vs 42.2 [10.7] y). DMD use differed by region, and more natalizumab patients were enrolled in HMOs (43.2% vs 32.4%). The percentage of patients with no evidence of DMD use in the preperiod was 26.6% for natalizumab and 63.5% for IFNβ-1a SC. Least square (LS) means differences between IFNβ-1a SC and natalizumab for total and prescription costs were a function of the number of days of exposure. At the average exposure of 290 days, total LS mean cost for IFNβ-1a SC and natalizumab were $26,433 and $35,980, respectively ($P < 0.0001$). Prescription costs were significantly higher for natalizumab compared with IFNβ-1a SC ($26,775 vs $20,187; $P < 0.0001$). Outpatient costs were significantly greater for natalizumab patients ($8640) than for IFNβ-1a SC patients ($4930; $P < 0.0001$). **CONCLUSIONS:** Patients initiated on natalizumab had greater total, prescription, and outpatient costs than did patients initiated on IFNβ-1a SC.

PND7

RELATION OF HEADACHE FREQUENCY TO HEALTH CARE UTILIZATION, WORK PRODUCTIVITY, AND TOTAL COSTS: RESULTS FROM THE AMERICAN MIGRAINE PREVALENCE AND PREVENTION (AMPP) STUDY

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OBJECTIVES: To assess the impact of headache frequency on health care utilization, medication use, productivity loss, and total costs. **METHODS:** The American Migraine Prevalence and Prevention (AMPP) Study is a 5-year, national, longitudinal